

Break the Chain

Subject: Science, Language Arts, Art

Duration: 2 Class Periods

Location: Classroom/Outdoors

Vocabulary: Competition, Food Chain, Exotic, Native

Related Activities: Everglades Most Wanted, Population Explosion, Unwanted Guest, Go Back Home, Going...Going...Gone!, Fishy Business

Florida Sunshine State Standards: SC.D.2.2, SC.G.1.2, LA.C.1.2, TH.E.1.2



Objectives. The students will be able to 1) define and give an example of a food chain. 2) Define exotic and native species and give examples of each. 3) Explain how an exotic species can harm native species or habitats.

Method. Students will act out a food chain with exotic species as a limiting factor.

Background. Have students read the species background information. The natural food web found within the Everglades is a complex system. Any change in this system can easily disrupt the web. This change causes a domino effect, causing problems for all species within the web.

Suggested Procedure

1. Assign students as the following species (this is only a suggestion; adjust numbers to fit the number of students in your class):
 - 1 human
 - 10 mosquitoes
 - 5 mosquito fish
 - 1 great blue heron
 - 1 snowy egret
 - 2 pike killfish
2. Have students make the items used to represent their species. (Example: student makes an egret beak out of construction paper.) Have the students punch holes into their 'animals parts' and attach a piece of string onto it using the holes.
3. The next class period have the students tie on the 'parts' they created last class period to represent the animal they were assigned. (Example: the egret ties its 'beak' onto its face and the 'feet' onto their legs.)
4. Read the following story and have the students act out each part. Remember that this is a melodrama!

Materials

- Baseball cap - human
- Antennae - mosquito
- Fins - mosquito fish
- Dark yellow beak – great blue heron
- Yellow feet and black beak – snowy egret
- Fins and teeth - pike killfish
- Art materials: string, glue, construction paper, colored pencils or crayons, etc.

Down in the Everglades, buzzing through the air, are the most famous inhabitants... the mosquitoes! They fly around searching for their favorite food, animal blood. But these unsuspecting insects land too close to the water where the little mosquito fish can gobble them up! (*Have the mosquito fish pretend to attack the mosquitoes. Have the mosquitoes die a dramatic death.*) The now full mosquito fish swim away through the sawgrass slough licking their lips (although fish don't have lips). But standing in the water, not moving a muscle, is a dangerous carnivore. The great blue heron waits patiently until one of those little mosquito fish swims right in front of it. Then the great blue heron snaps its neck forward and spears the fat little mosquito fish! (*Have the heron pretend to spear the fish with its beak. The fish dies a dramatic death.*) The great blue heron wades through the water licking its beak, now nice and full. The other mosquito fish swim away quickly. But they notice something pretty and yellow on the surface of the water. A snowy egret is flying over the water, dragging its yellow feet to attract the fish. The curious little mosquito fish swim to the surface to investigate and SNAP! Another little mosquito fish is eaten. (*The snowy egret grabs the fish with its beak and the fish dies dramatically.*) The little mosquito fish swim away from the birds, now safe. Or are they? Not too far from these little mosquito fish, a human has released some pike killifish into the water. (*The human pretends to dump something into the waters.*) These fish are very hungry and they immediately spot their favorite food; mosquito fish! The mosquito fish scream as loud as they can underwater (not very loud) and they try to swim away. (*Have them walk quickly, mimicking a run.*) But the pike killifish are bigger, meaner, and faster and they quickly catch up and gobble up each and every mosquito fish. (*Pike killifish pretend to eat the mosquito fish. The mosquito fish die a dramatic death.*)

You may think that is the end of the story, but it isn't. Some time goes by without our little mosquito fish, and the mosquito population has exploded. (*Bring back all the mosquitoes, happy and dancing because they won't be eaten.*) The great blue heron and the snowy egret are trying to find the little mosquito fish to eat, but the fish are gone. The heron and egret eventually die from no more food. (*Have them die a dramatic death.*)

Now all that's left are the pike killifish and the mosquitoes. The Everglades food chain has broken down. But the mosquitoes have plenty of food. They swarm the human!

Evaluation

1. Ask the students what they felt happened during this activity.
2. What would happen if pike killifish spread to other areas of the Everglades?
3. What types of problems can this cause?
4. Can you think of other exotic species that can hurt an ecosystem like this?
5. How?